

**To:** Wall, Dan[wall.dan@epa.gov]  
**From:** Scott Roberts  
**Sent:** Thur 9/17/2015 10:25:19 PM  
**Subject:** Re: A55 - Howardsville - Tissue

Thank you Dan. That is extremely helpful.

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**From:** Wall, Dan <wall.dan@epa.gov>  
**Sent:** Thursday, September 17, 2015 3:58 PM  
**To:** Scott Roberts  
**Subject:** FW: A55 - Howardsville - Tissue

Hi Scott

Here is what we have for analytical results.

**From:** Pierce, Maggie  
**Sent:** Thursday, September 17, 2015 3:57 PM  
**To:** Wall, Dan  
**Subject:** RE: A55 - Howardsville - Tissue

What appears to be macroinvertebrate tissue is attached for all sites and A55.

I didn't find anything that looked like fish tissue at A55. That file I sent earlier is all I've found by way of fish tissue.

FYI...I found both the fish and macro tissue in the project called "R8 UpperAnimasRiver."

I checked these other projects, but didn't see any:

"R8 Upper Animas Reassessment"

"R8 Red and Bonita Mine"

"R8RedBonita updated 10-31-13" and

"Mogul and Grand Mogul"

**From:** Wall, Dan  
**Sent:** Thursday, September 17, 2015 3:23 PM  
**To:** Pierce, Maggie  
**Subject:** FW: A55 - Howardsville - Tissue

Hi Maggie

Any chance you could see if this data is in SCRIBE?

**From:** Scott Roberts [mailto:[scott@mountainstudies.org](mailto:scott@mountainstudies.org)]  
**Sent:** Thursday, September 17, 2015 3:16 PM  
**To:** Wall, Dan  
**Subject:** A55 - Howardsville - Tissue

Hi Dan,

Thanks for looking into those questions for me. I appreciate it.

One more question. We had considered including A55 - Animas at Howardsville. My records indicate that I did collect a tissue sample from that location, but I don't see that data in the BERA report. Any chance you could tell me if that data exists?

Thank you!

Scott

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**From:** Wall, Dan <[wall.dan@epa.gov](mailto:wall.dan@epa.gov)>  
**Sent:** Thursday, September 17, 2015 8:52 AM  
**To:** Scott Roberts  
**Subject:** FW: Two Questions regarding Methods

Our chemist is weighing in...

**From:** Walker, Scott  
**Sent:** Thursday, September 17, 2015 8:51 AM  
**To:** Wall, Dan; McDaniel, Mark; Auer, Steven  
**Cc:** Goodrich, Donald  
**Subject:** RE: Two Questions regarding Methods

To answer your question concerning the amount of tissue required for analysis:

To get the method certified detection limits, the minimum we need 0.5 g of tissues DRY WEIGHT. Typical percent moistures for macroinvertebrates run 75-80%, so you will need 2.0 to 2.5 g (after it has been thoroughly rinsed and drained) of wet weight tissue. This is the minimum amount needed one digestion/analysis, so to get enough volume for full QC (duplicate/matrix spikes), we need 2.0 grams dry weight for one in every ten samples. So, for example, if you are taking 20 samples, only two of those samples need to have 2.0 grams or greater dry weight (8 to 10 grams wet weight).

The amounts listed above are the minimums for metals analysis only (no mercury). Mercury is a separate analysis and requires the same (0.5g) amount for one analysis, so double everything if you require mercury.

We can incorporate some modified method techniques if these amounts are simply unattainable, but it is not preferred. Obviously, the more volume there is, the better the results are. We will dry and homogenize the entire sample received, which means more sample equals better representation and less modifications required.

Hope this helps, call me if you have questions!

Scott Walker  
Senior Chemist - TechLaw, Inc.  
EPA Region 8 Laboratory  
16194 W. 45th Dr.  
Golden, CO 80403  
(303) 312-7726 - direct

(303) 312-7801 - fax  
(303) 453-9018 – cell

☺This message is composed of 100% recycled electrons, no trees were harmed in the sending of this e-mail. However billions of electrons were temporarily inconvenienced.☺

**From:** Wall, Dan  
**Sent:** Wednesday, September 16, 2015 4:54 PM  
**To:** McDaniel, Mark; Walker, Scott; Auer, Steven  
**Cc:** Goodrich, Donald  
**Subject:** FW: Two Questions regarding Methods

Can you all help me with these questions? There will be some bug samples coming at some point.

**From:** Scott Roberts [mailto:[scott@mountainstudies.org](mailto:scott@mountainstudies.org)]  
**Sent:** Wednesday, September 16, 2015 4:03 PM  
**To:** Wall, Dan  
**Subject:** Two Questions regarding Methods

Hi Dan,

Great to see you yesterday. In order to make sure we are consistent with methodologies used in 2014, I have a few questions:

- 1) Can your chemist share the sample specifications they will need for tissue analysis? (e.g., what is the minimum # of grams per sample).
- 2) I believe Timberline Aquatics conducted the IDs and Metric calculation for the 2014 data. They stated that they used a 300-count sub-sample to calculate Colorado's multi-metric index. I want to ensure that I use the same sub-sampling methodology so that our multi-metric index is comparable. Would it be possible to ask Timberline for their methodology?

You or Steve Auer may already have Timberline's methodology according to the BERA Report, in Appendix 11 on p. 499 (<http://www2.epa.gov/sites/production/files/2015-06/documents/upper-animas-draft-bera-appendices-april-2015.pdf>)

*"February 6, 2015 Mr. Steve Auer TechLaw 16194 W. 45th Drive Denver, CO 80403  
Dear Mr. Auer, Enclosed are the results from fourteen (14) benthic macroinvertebrate samples collected for the Animas River Biomonitoring Project during the fall of 2014. Data are reported as 300-count subsamples (based on protocols for MMI calculation provided by the Colorado Department of Public Health and Environment). Specific information on subsampling has been provided in the enclosed Excel file entitled "Animas 2014 grid data". MMI scores were calculated from benthic data for each site. The MMI results are provided at the end of this report. Please contact me if you have any questions. Sincerely, Timberline Aquatics, Inc. David E. Rees President Enc. /dr"*

THANKS DAN!

Scott

**Mountain Studies Institute**

Aquatic Ecologist

1309 E. 3<sup>rd</sup> Avenue #106, Durango CO 81301

P.O. Box 426, Silverton CO 81433

Office- 970-387-5161 | Cell- 865-382-2993

[www.mountainstudies.org](http://www.mountainstudies.org)